



LOW-PERFORMING STUDENTS

*WHY THEY FALL BEHIND AND
HOW TO HELP THEM SUCCEED*

Alfonso Echazarra
Directorate for Education and Skills
OECD



**“LOW-PERFORMING”
STUDENTS:**

WHAT DO WE MEAN?



Low performers: Definitions in PISA

- In PISA, **Level 2** is considered the **baseline level of proficiency** in mathematics, reading and science.
- In PISA, “**low performers**” are students who score **below the baseline Level 2** in mathematics, reading and/or science (i.e. they score at Level 1 or below).

Students demonstrate elementary skills to read and understand simple text and master basic mathematical and scientific concepts and procedures
- **Low performers** can answer questions that provide clear directions and single information sources and connections. However, they typically cannot make more complex uses of information and reasoning.



Proficiency levels in mathematics, reading and science

	Proficiency level	Lowest score point in the level		
		Mathematics	Reading	Science
At or above the baseline proficiency	Level 6	669	698	708
	Level 5	607	626	633
	Level 4	545	553	559
	Level 3	482	480	484
	Level 2 (baseline)	420	407	410
Low-performing students (below baseline)				
	Below Level 1	.	.	.

Low-performing students in mathematics are those who score below 420 points

Low-performing students in reading are those who score below 407 points

Low-performing students in science are those who score below 410 points

Mei-Ling from Singapore was preparing to go to South Africa for 3 months as an exchange student. She needed to change 3000 Singapore dollars (SGD) into South African rand (ZAR).

Question: Mei-Ling found out that the exchange rate between Singapore dollars and South African rand was:

Answering this question correctly corresponds to a difficulty of 406 score points on the PISA mathematics scale. Across countries, 80% of students answered correctly. To answer the question correctly students have to draw on skills from the reproduction competency cluster.

Answer: 12600 ZAR

% students by country who answered correctly

Liechtenstein	95
Macao- China	93
Finland	90
France	89
Hong Kong-China	89
Sweden	89
Austria	87
Switzerland	87
Belgium	87
Czech Republic	87
Canada	86
Slovak Republic	86
Iceland	86
Denmark	85
Russian Federation	85
Luxembourg	85
Netherlands	85
Hungary	84
Ireland	83
Germany	83
Australia	81
Korea	81
Latvia	80
New Zealand	80
OECD average	80
Japan	79
Spain	79
Serbia	79
Norway	77
Poland	77
Portugal	74
United Kingdom	74
Greece	73
Italy	71
Uruguay	71
Mexico	60
Thailand	60
Turkey	60
Indonesia	59
Tunisia	55
United States	54
Brazil	37



LOW PERFORMANCE AT AGE 15

WHY IT MATTERS

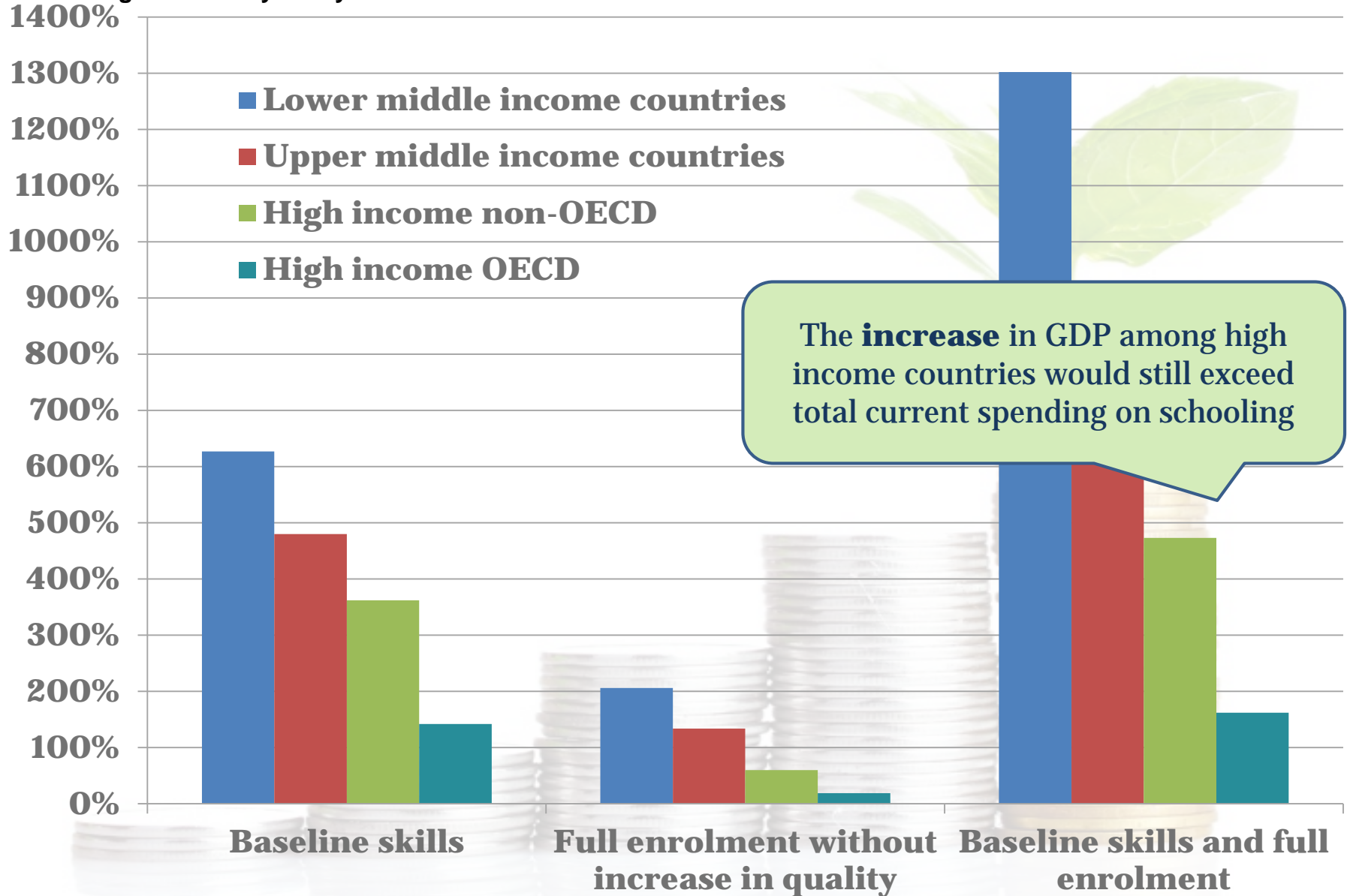


Consequences for low performers

- **Risk of dropping out of school: lower educational attainment**
- **Low-skills tend to be persistent over time, from age 15 into early adulthood**
- **Limited access to better-paying and more-rewarding- jobs**
- **Poorer health and less civic participation**

The economic value of eliminating low performance

Value of improvement in terms of current GDP over working life of today's 15-year-olds



The **increase** in GDP among high income countries would still exceed total current spending on schooling



Diversity of cases shows that reducing low performance is possible anywhere

Reduced their share of low performing students in...

Mathematics (between 2003 and 2012)	Reading (between 2000 and 2012)	Science (between 2006 and 2012)
OECD (6 countries)	OECD (6 countries)	OECD (12 countries)
Germany Mexico Italy Poland Portugal Turkey	Germany Mexico Italy Japan Poland Turkey	Estonia, Ireland Israel, Italy Japan, Korea Poland, Portugal Spain, Switzerland Turkey, United States
Partners (3 countries)	Partners (4 countries and economies)	Partners (8 countries and economies)
Brazil Russian Federation Tunisia	Hong Kong-China Russian Federation Thailand Tunisia	Brazil, Hong Kong-China Latvia, Lithuania Qatar, Romania Thailand, Tunisia



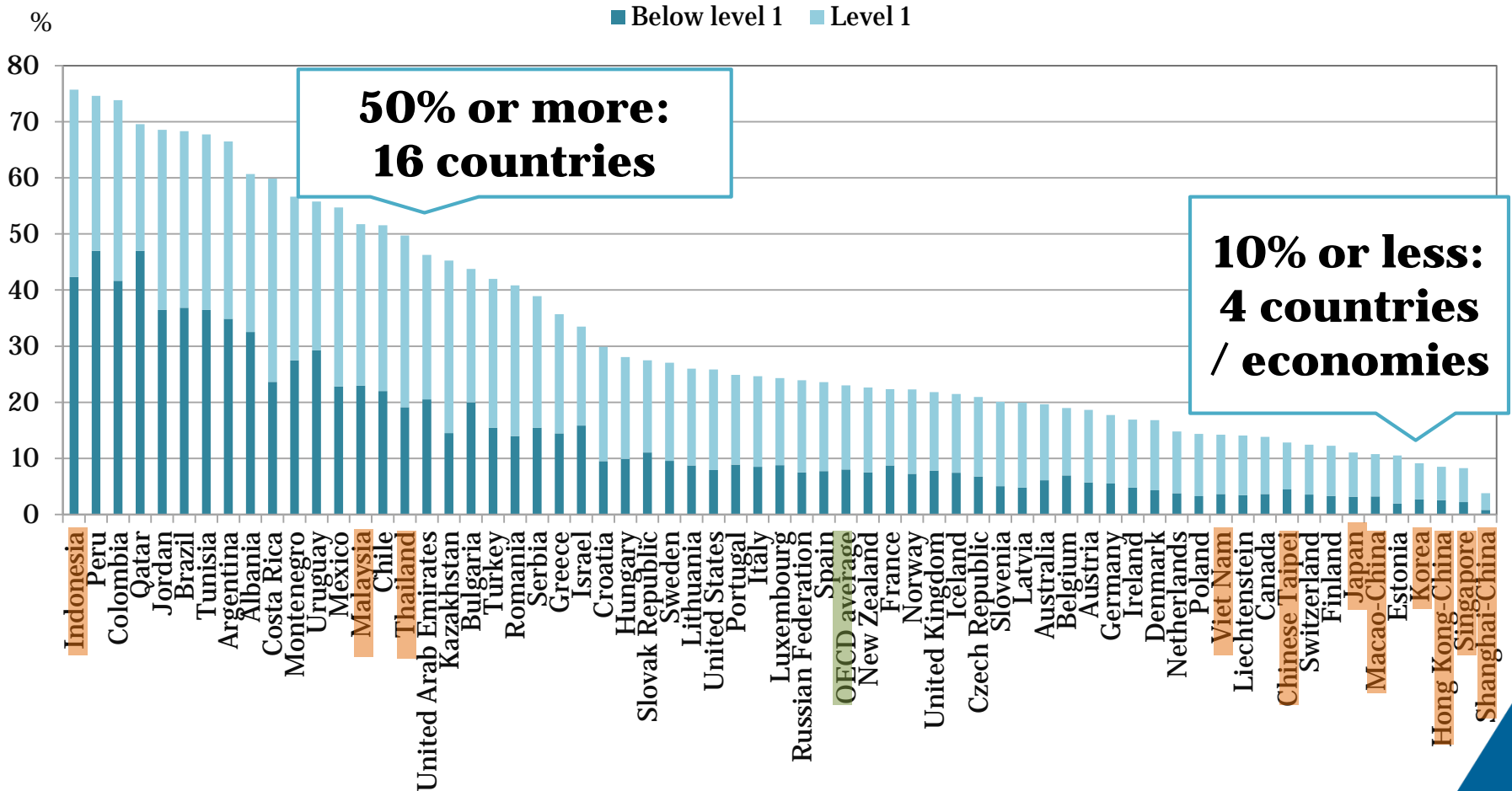
LOW-PERFORMING STUDENTS:

HOW MANY ARE THERE?



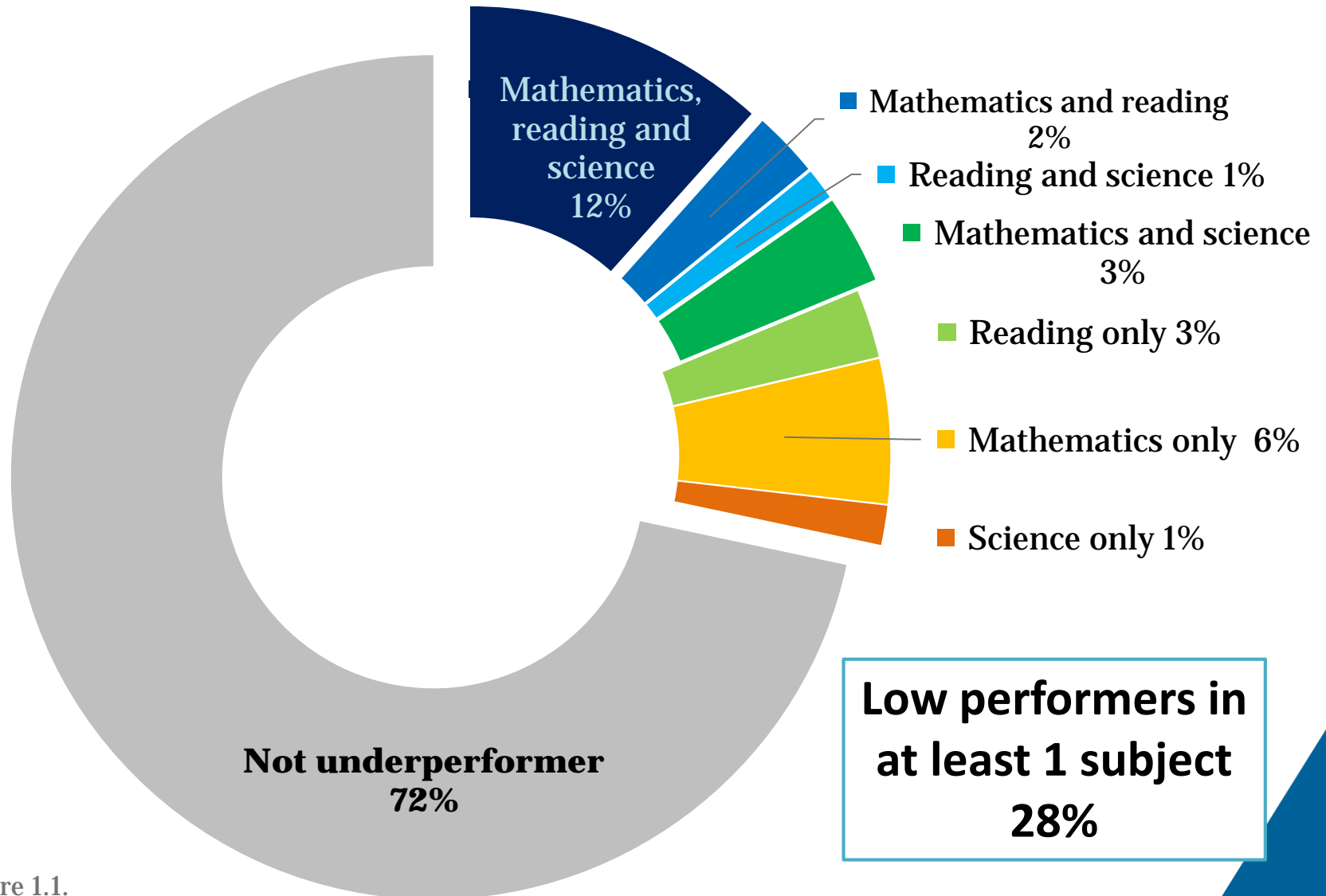
All countries participating in PISA have a sizable share of low performers

Percentage of low performers (Level 1 or below) in Mathematics





Overlap of low performance across subjects (OECD average)

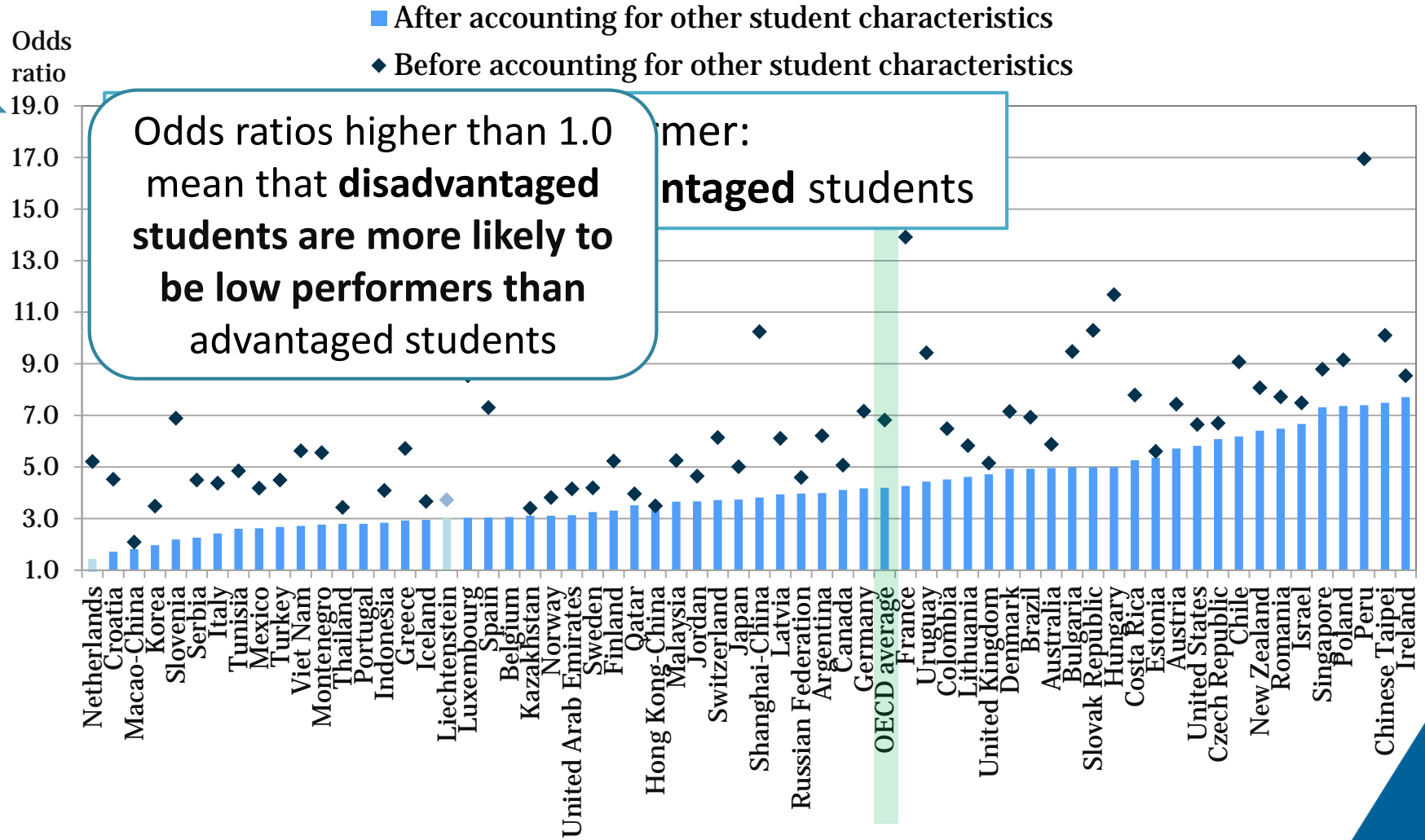




STUDENTS' BACKGROUND AND LOW PERFORMANCE



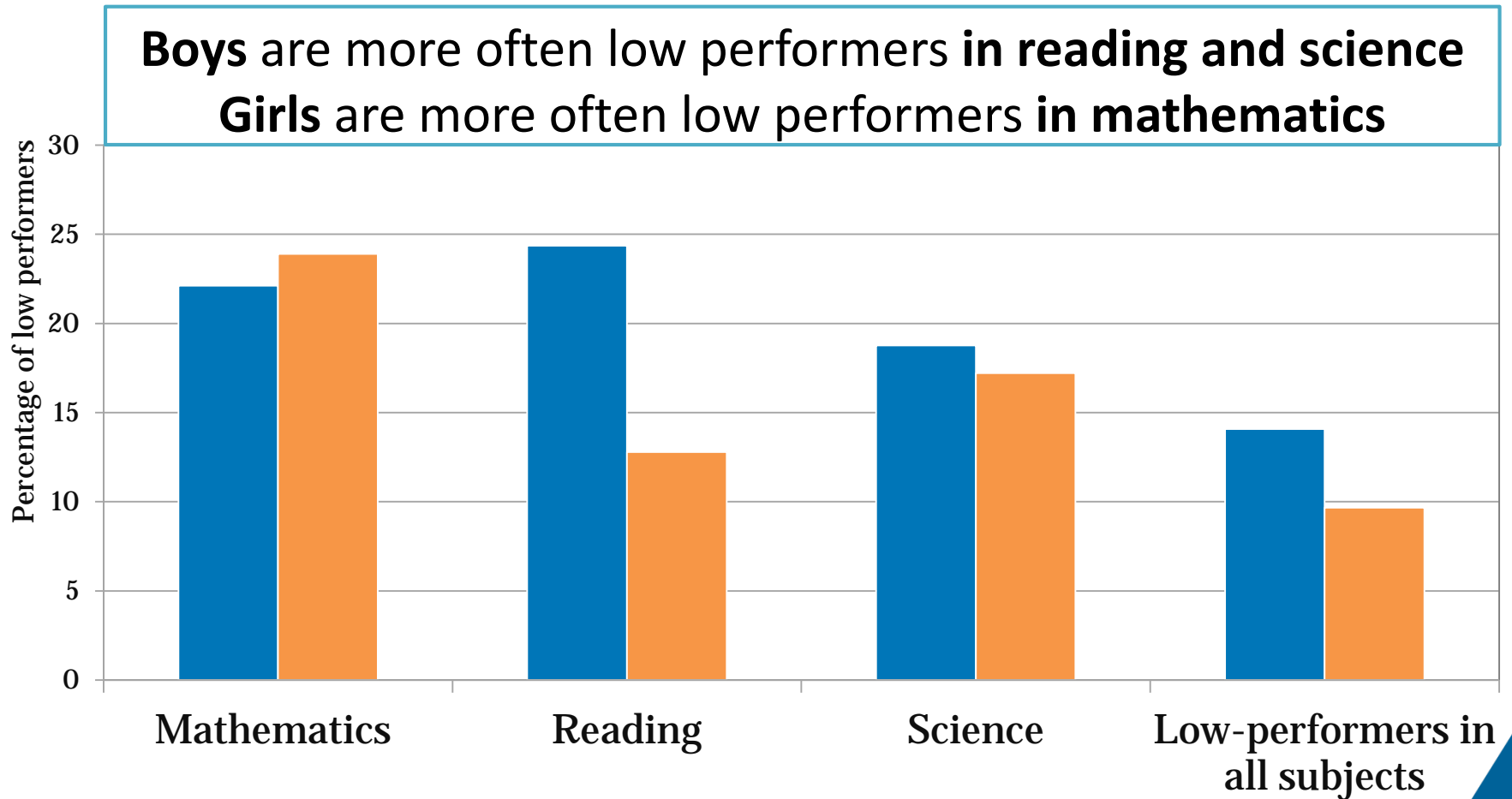
Socio-economic status





Gender (OECD average)

■ Boys ■ Girls

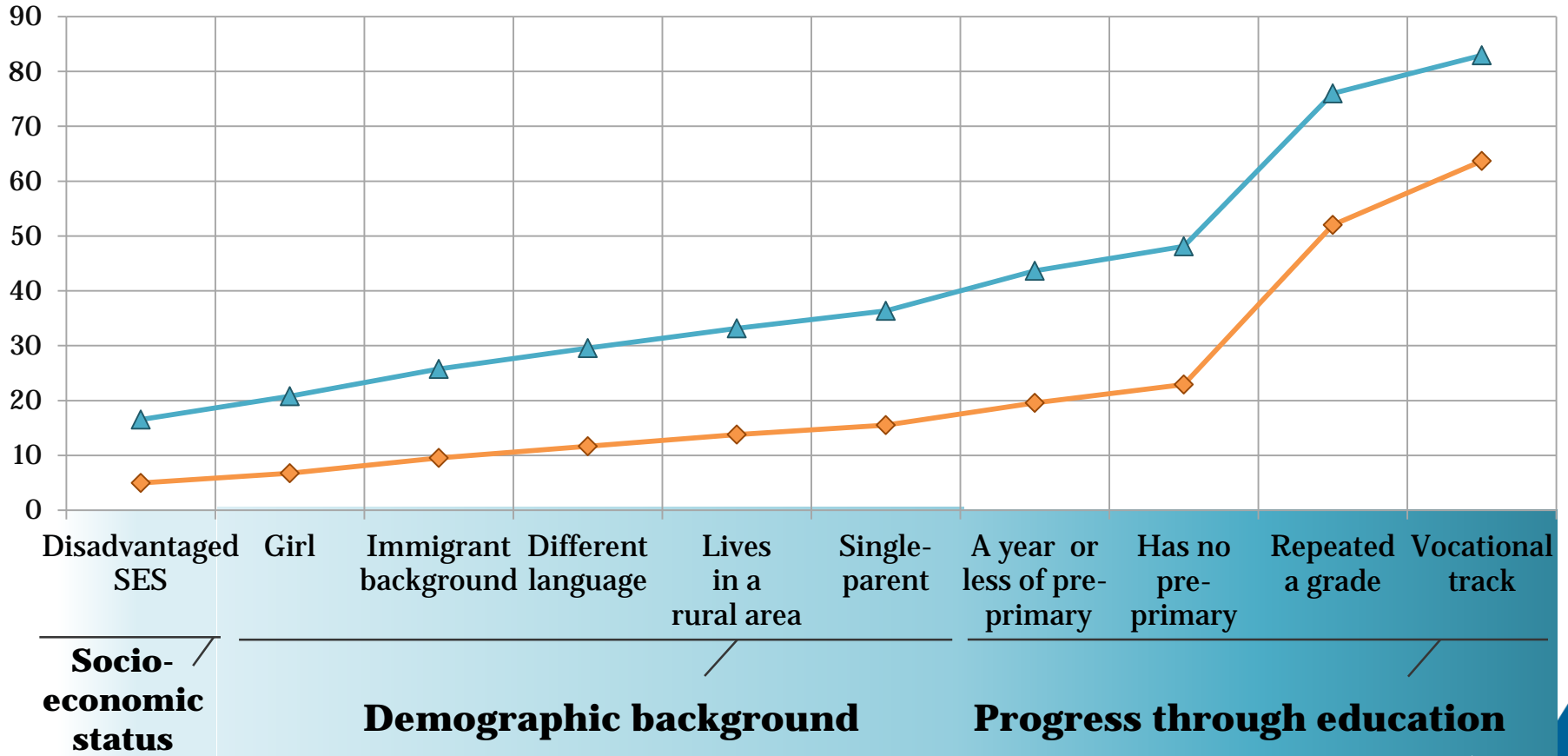




The risk of low performance is cumulative and multidimensional

Probability of low performance (%)

- ◆ Socio-economically advantaged student
- ▲ Socio-economically disadvantaged student



Cumulative probability of becoming a low performer



**STUDENTS' ATTITUDES
AND BEHAVIORS**

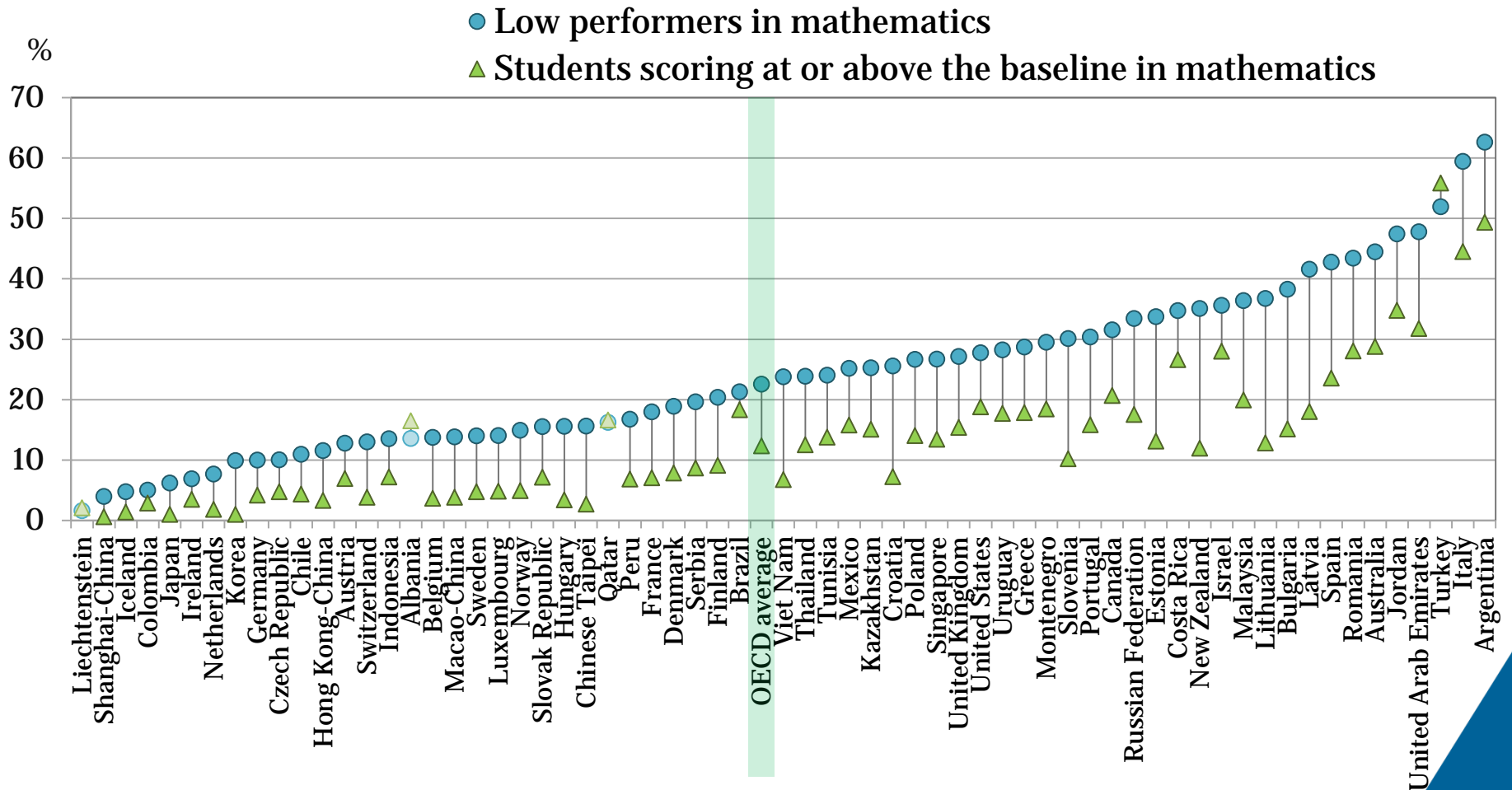
AND

LOW PERFORMANCE



Missing learning opportunities and low performance

Percentage of students who had skipped school at least once in the two weeks prior to the PISA test





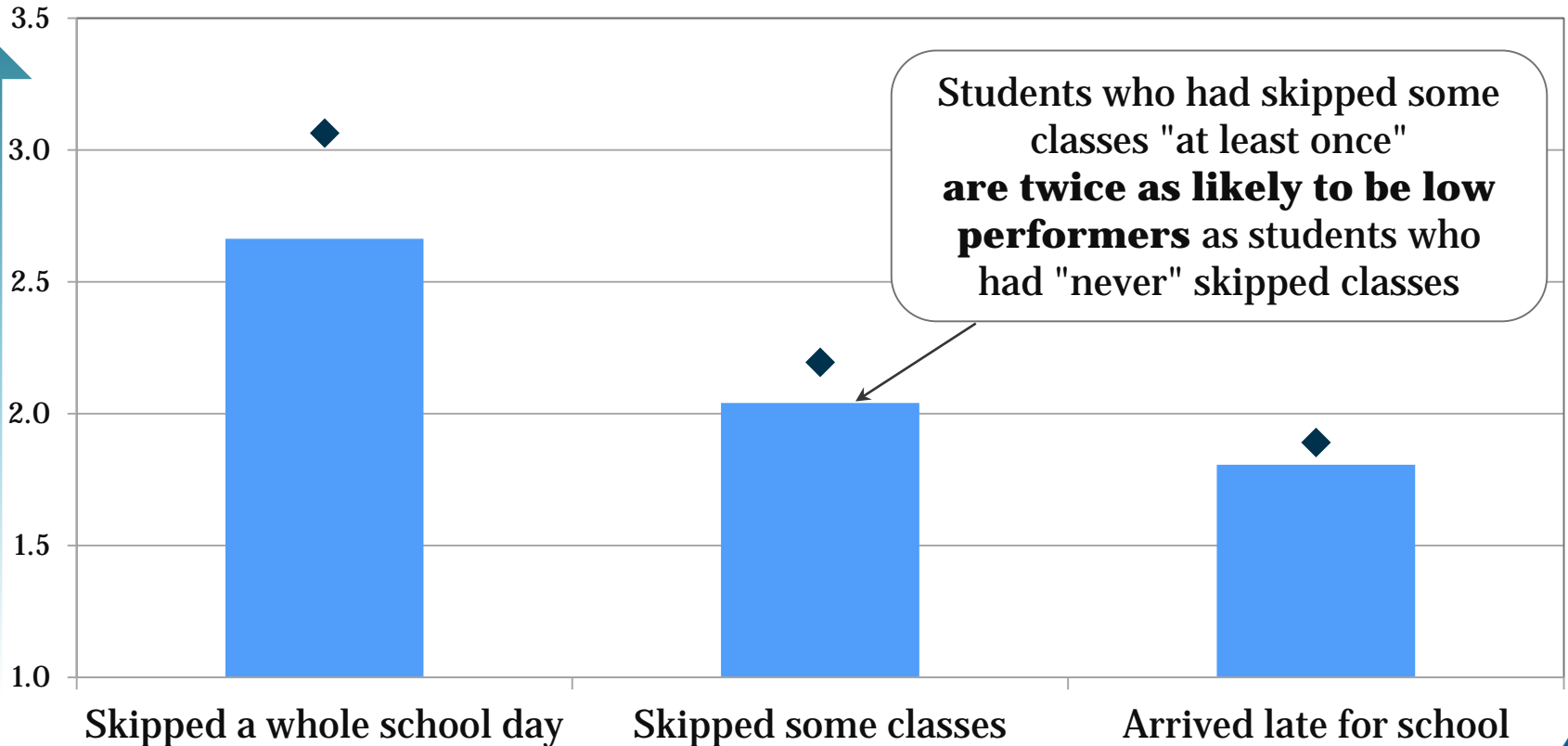
Missing learning opportunities is associated with low performance in mathematics

Across OECD countries

Odds ratio:
"at least once"
versus
"never"

- After accounting for students' characteristics
- ◆ Before accounting for students' characteristics

More likely to be low performer



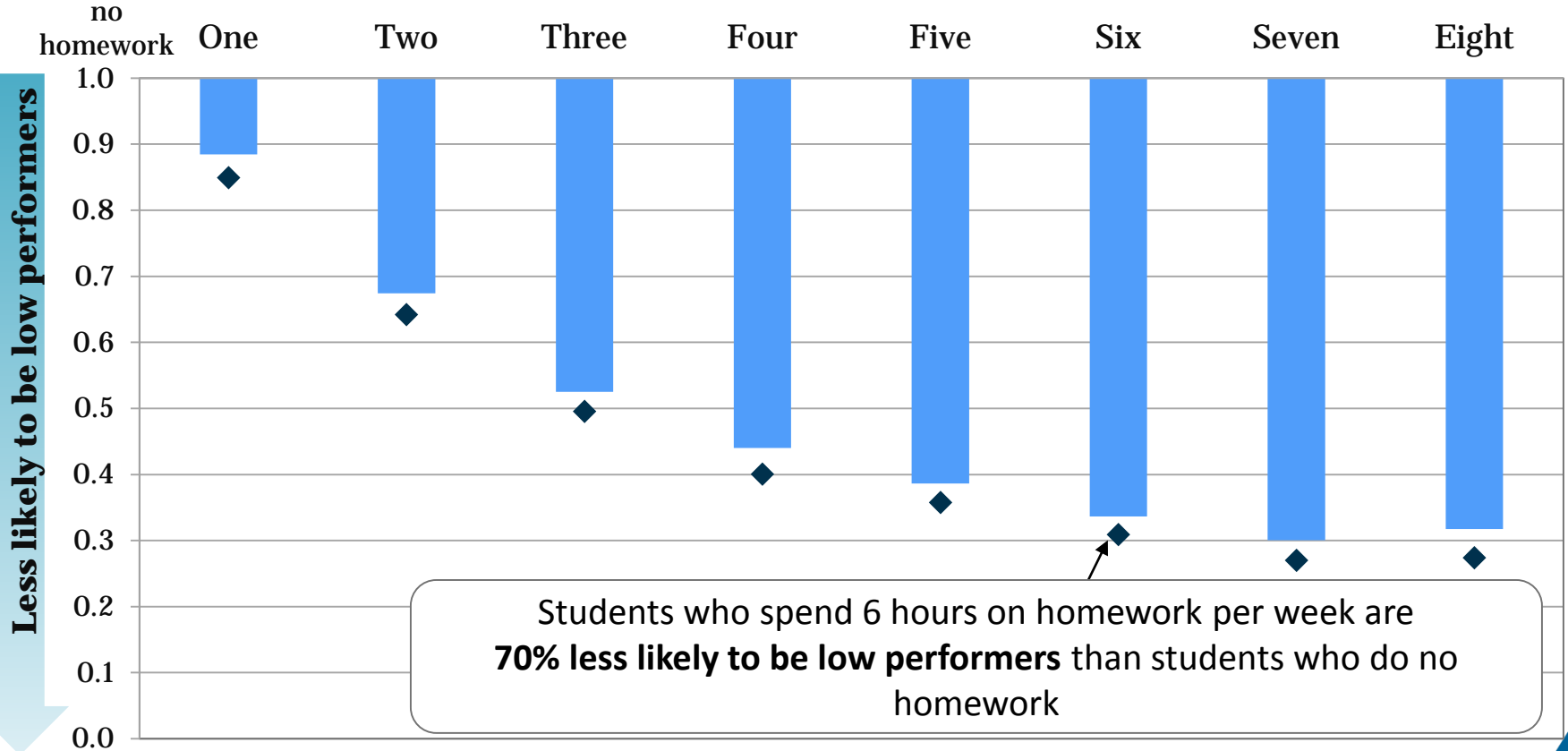
Students who had skipped some classes "at least once" are twice as likely to be low performers as students who had "never" skipped classes



More hours spent doing homework is associated with a lower risk of low performance, at least up to a point

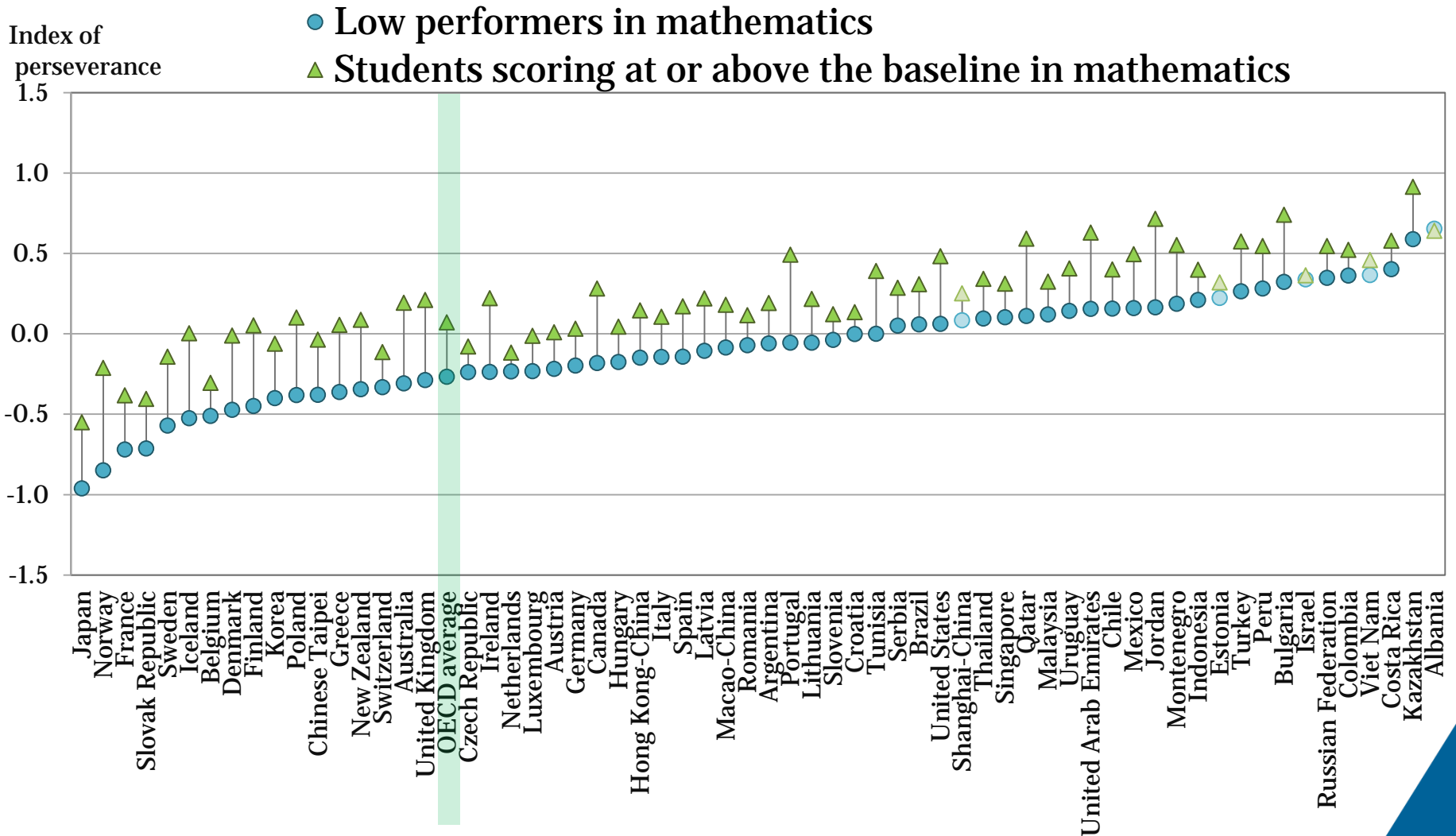
Odds ratio :
hours of
homework
versus
no
homework

- After accounting for students' characteristics
- ◆ Before accounting for students' characteristics





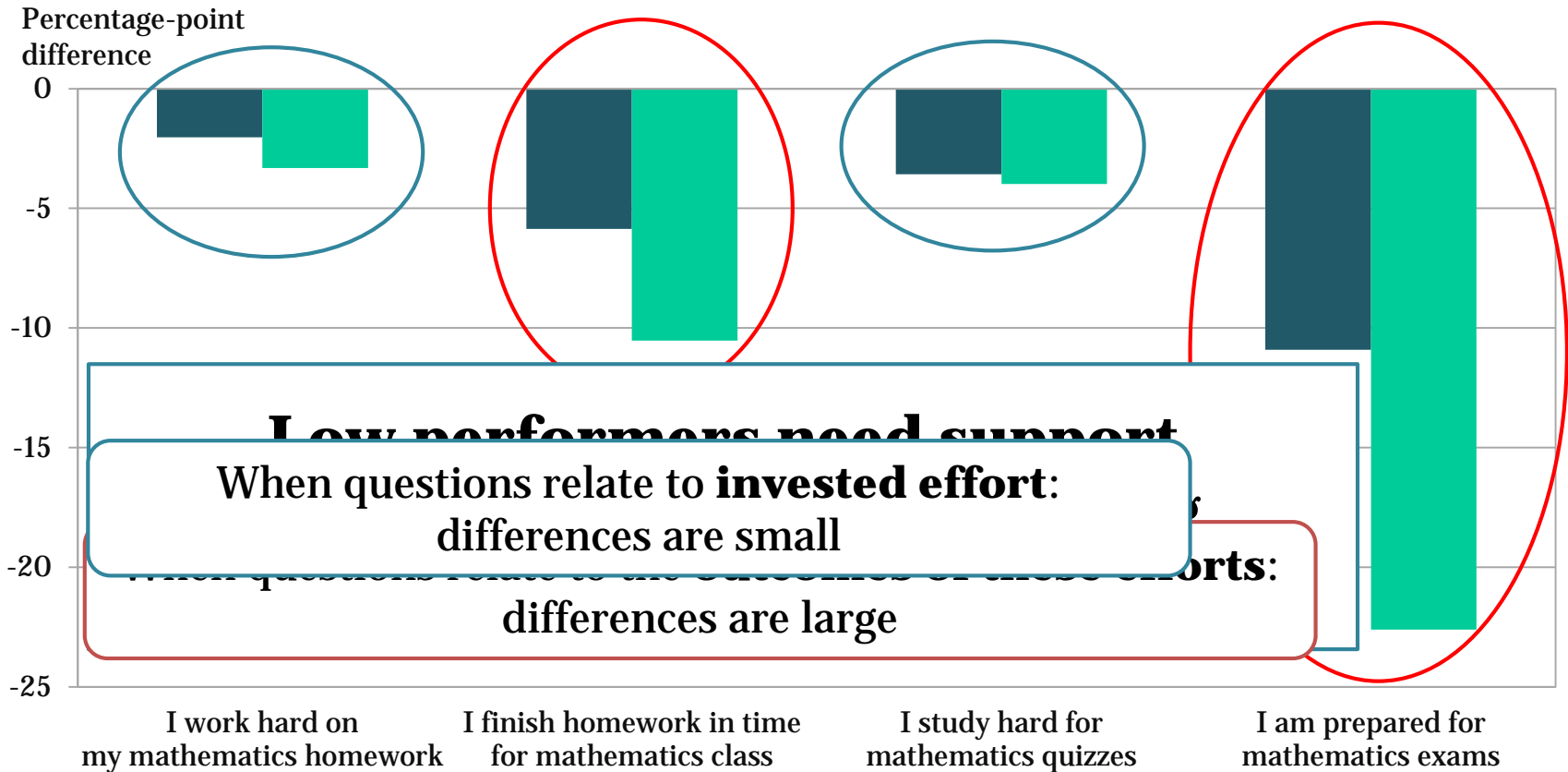
Low performers say they are less perseverant





Low performers in mathematics perceive their effort to be unproductive

- Difference between low and moderate performers
- Difference between low performers and strong/top performers

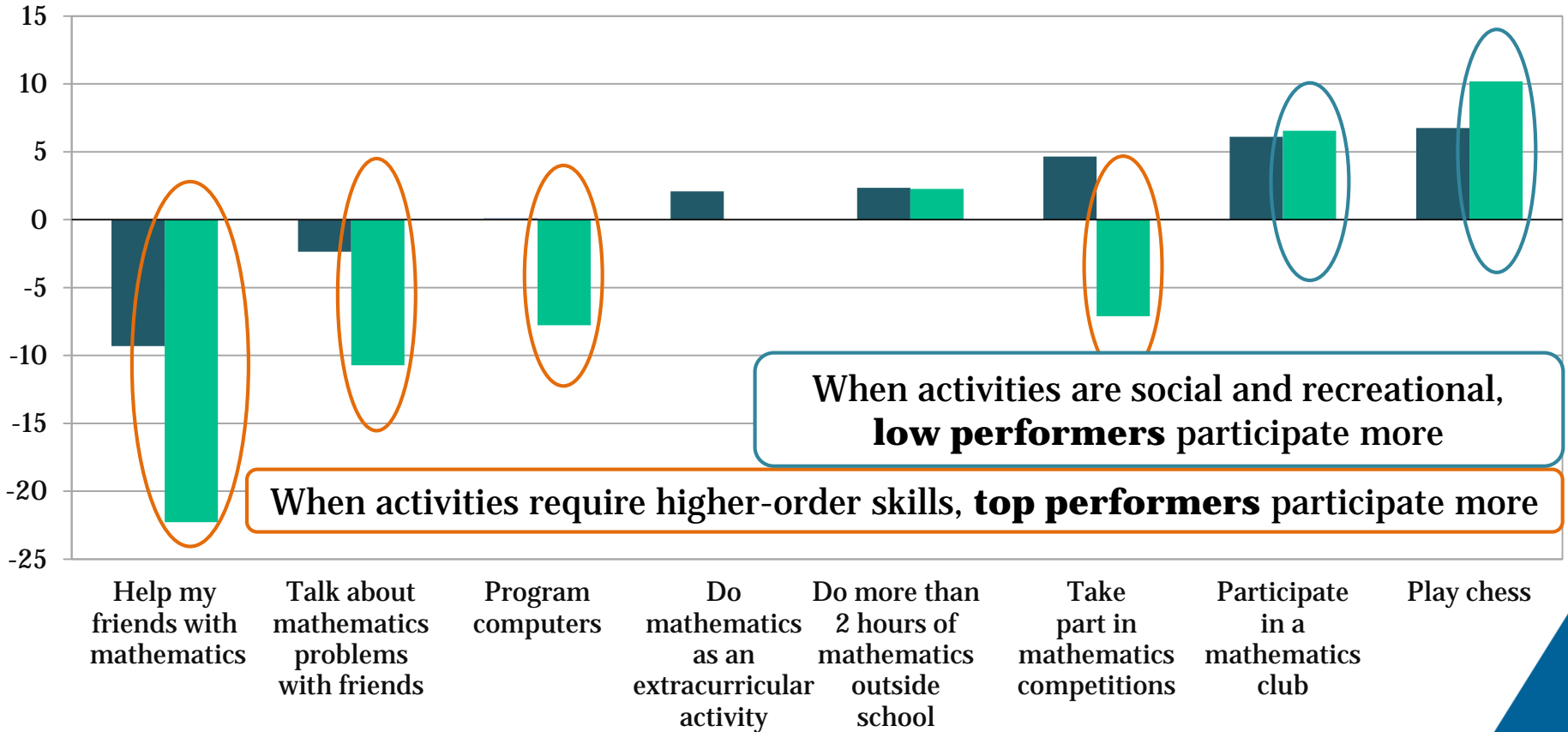




Participation in mathematics-related activities and low performance

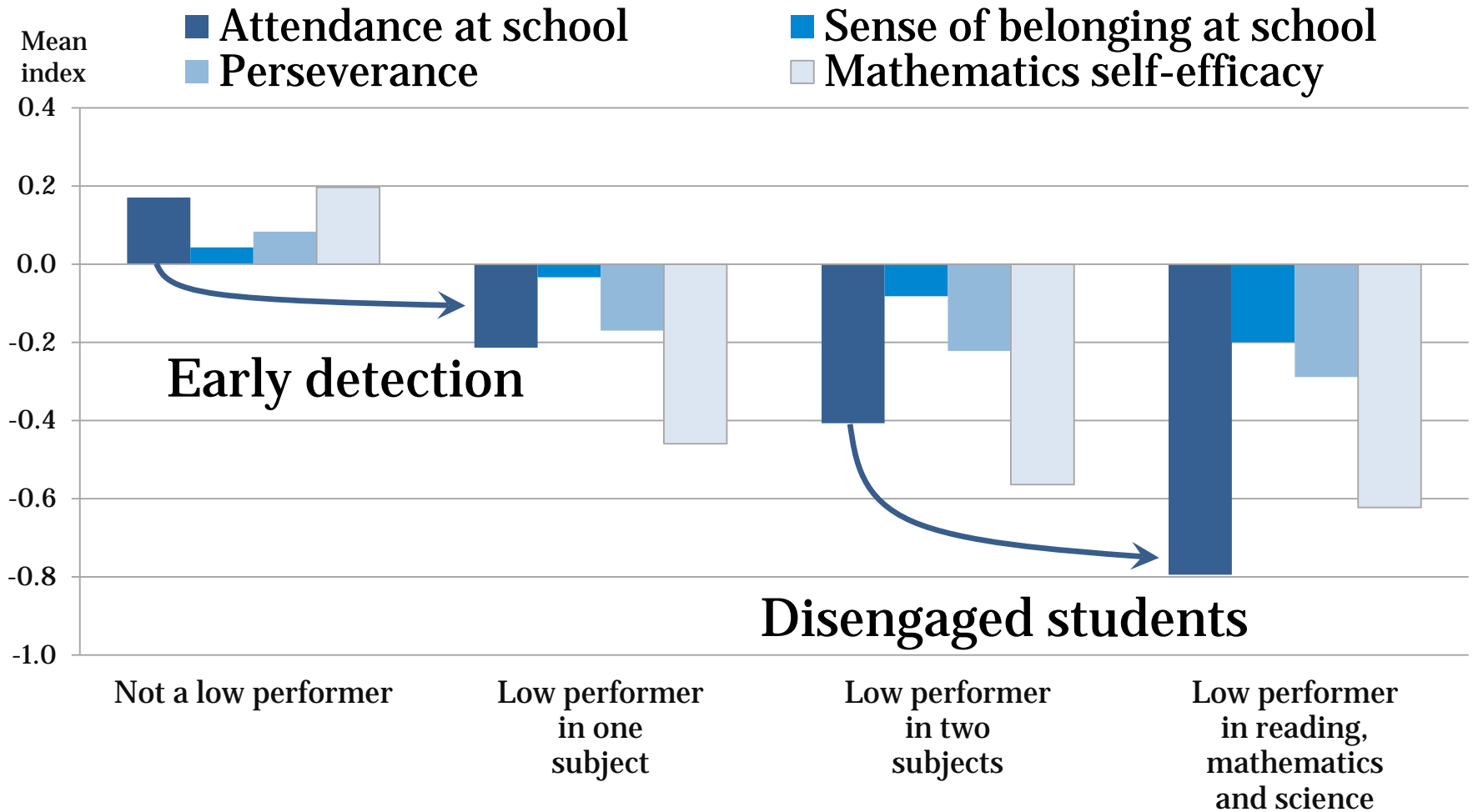
- Difference between low and moderate performers
- Difference between low and strong/top performers

Percentage-point difference





Low performers' attitudes towards school and learning, by school subject

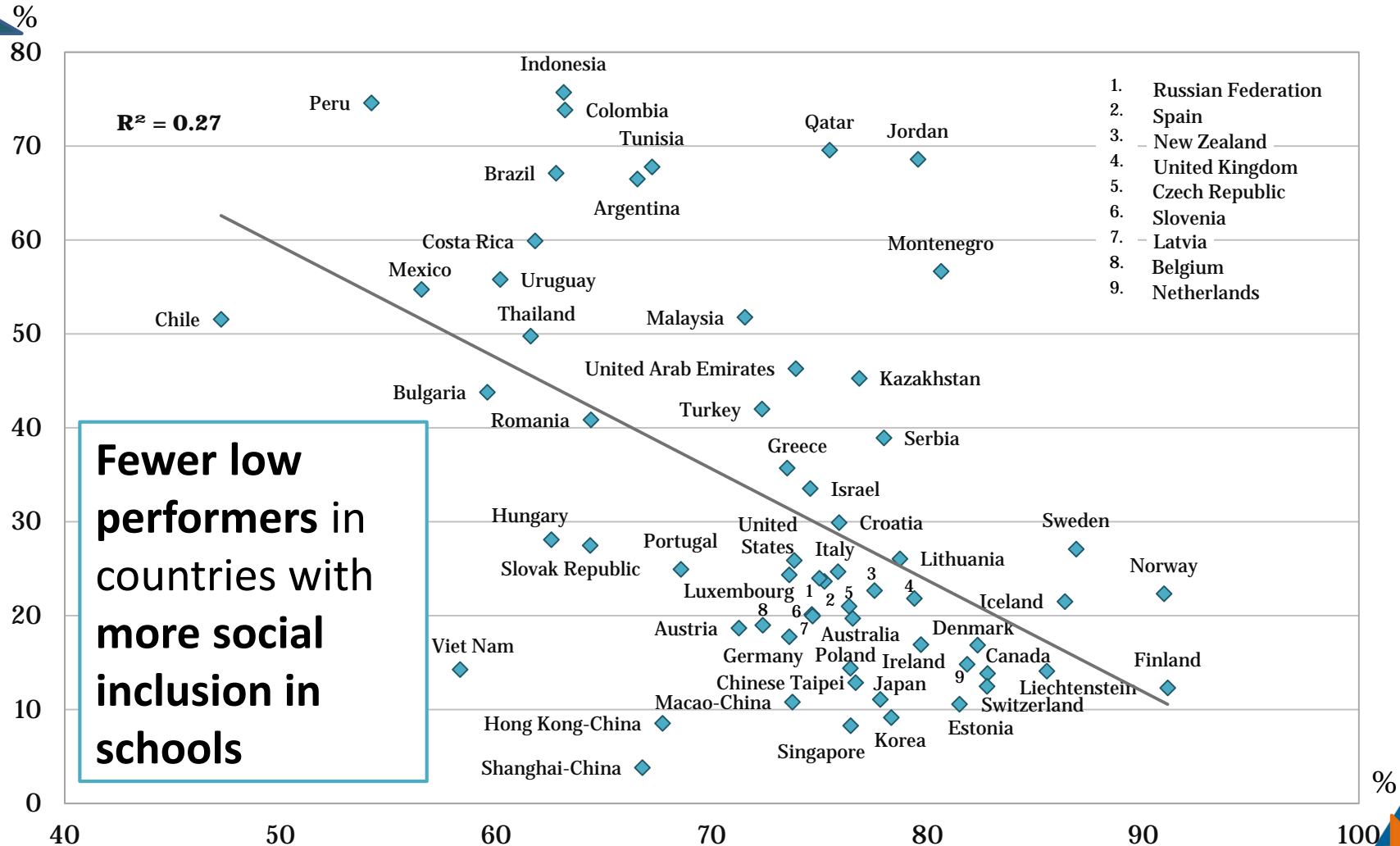




**SCHOOLS
AND
LOW PERFORMANCE**

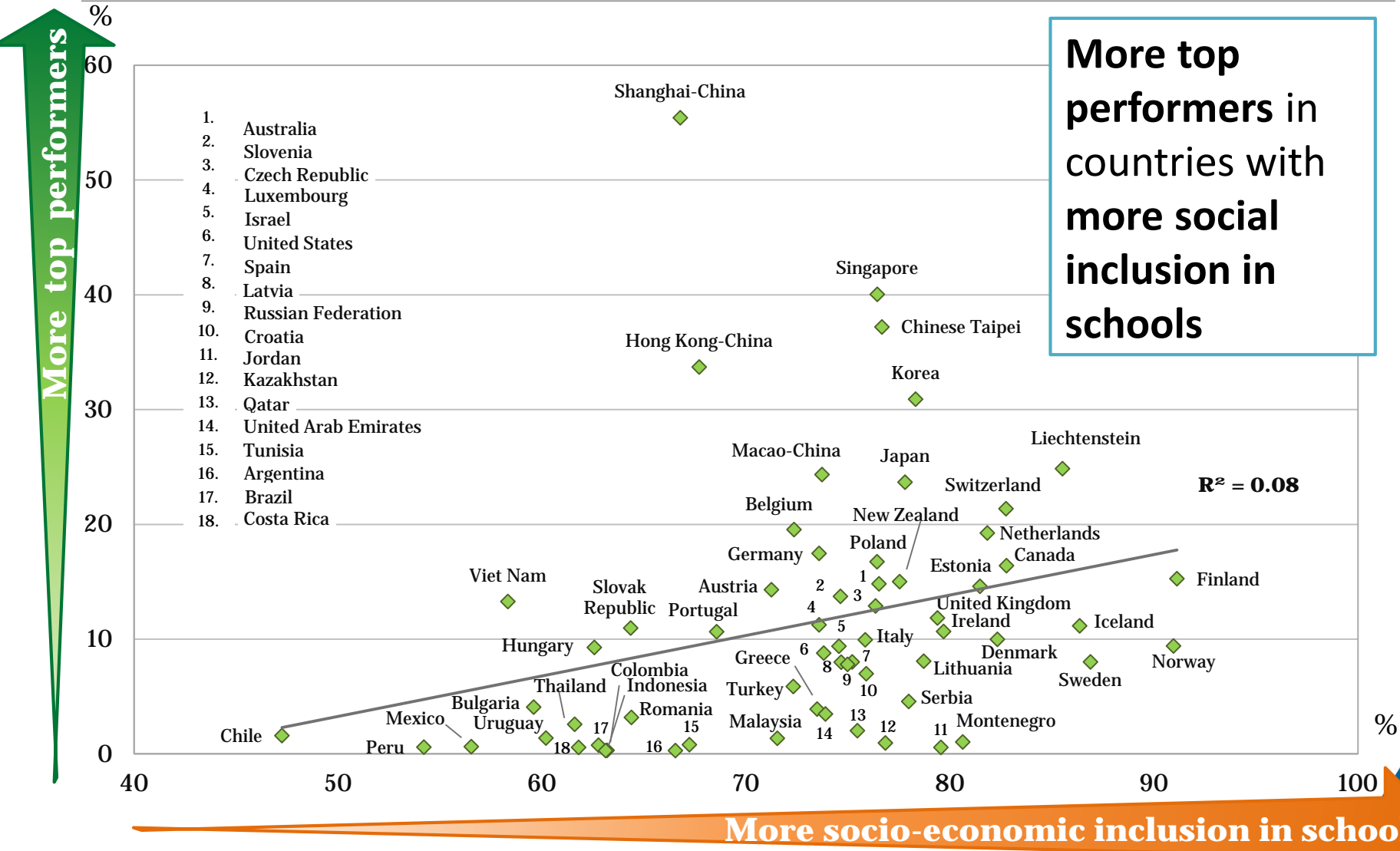
Socio-economic inclusion in schools

More low performers



More socio-economic inclusion in schools

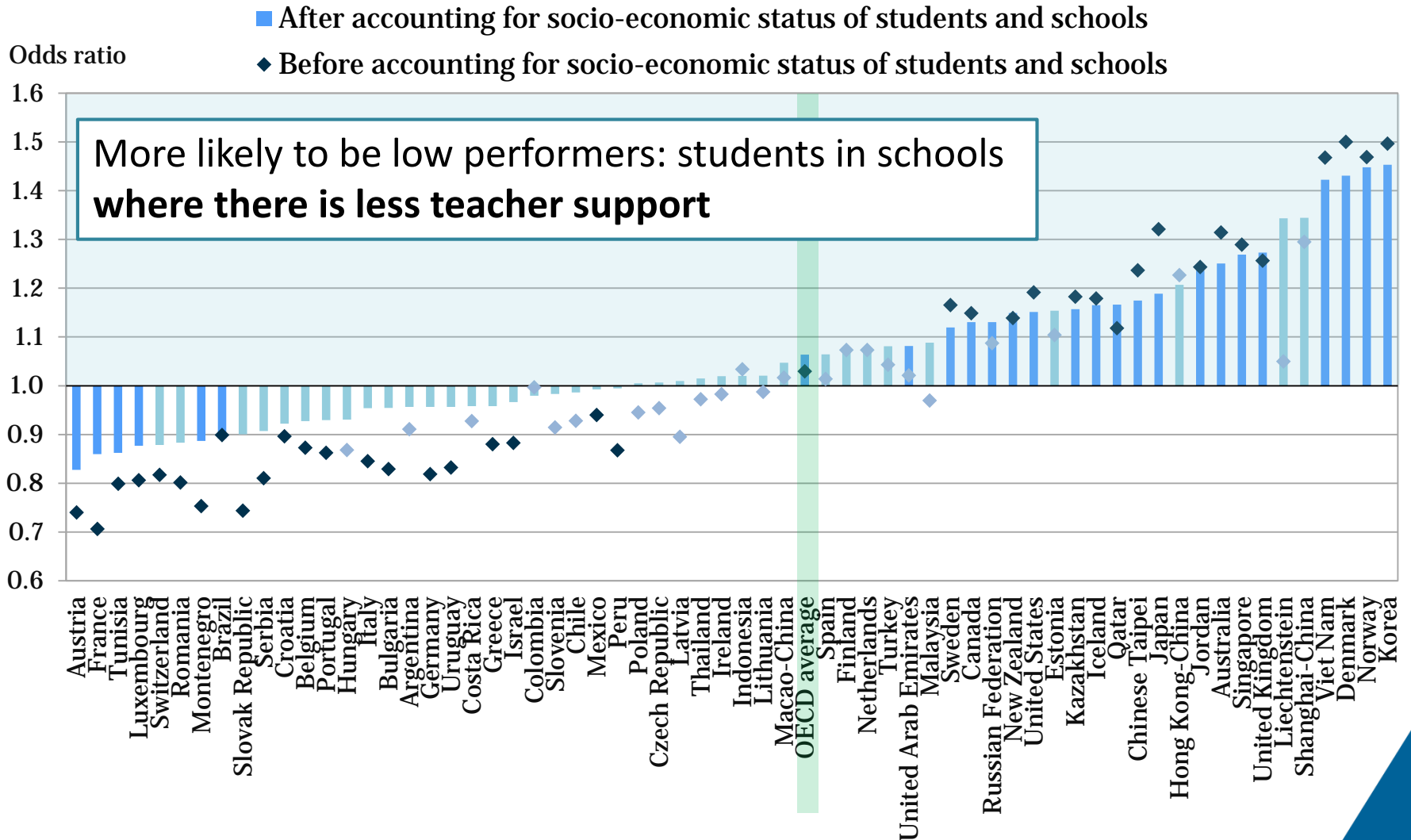
Socio-economic inclusion in schools



Source: Figure 5.1b.



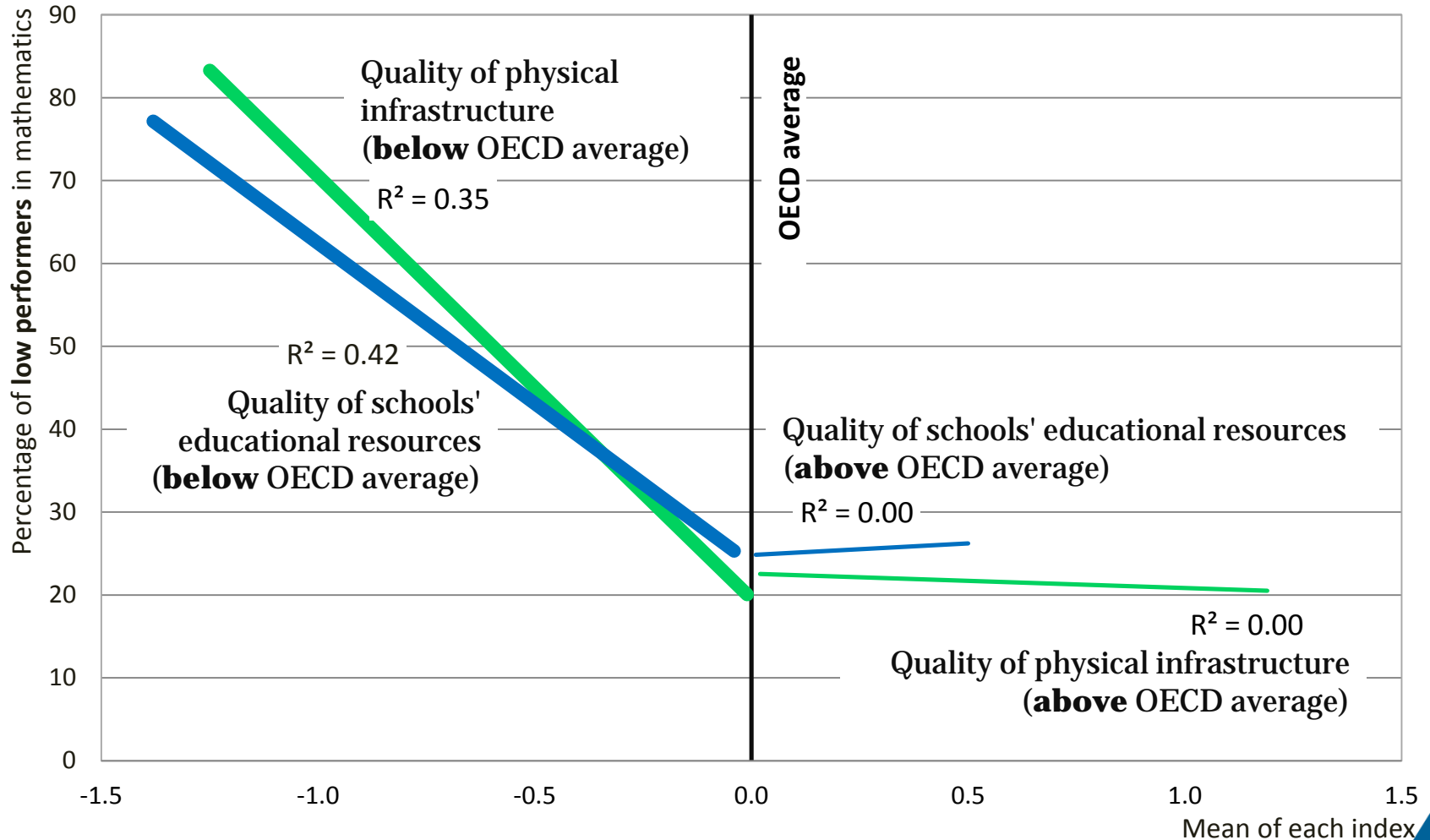
Teachers' support





School resources by country's resources level

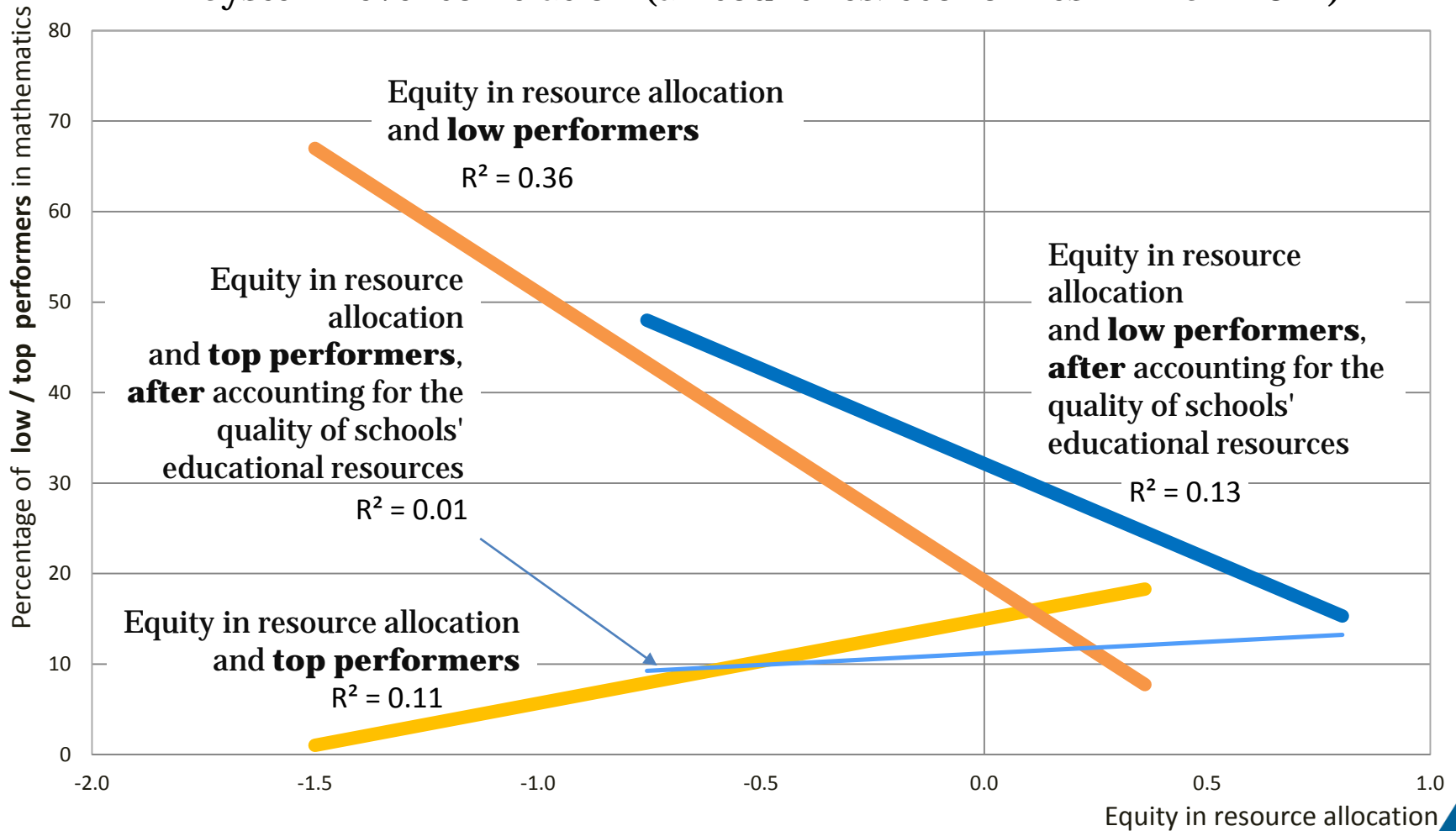
System-level correlation (all countries/economies in PISA 2012)





Equity in resources across schools

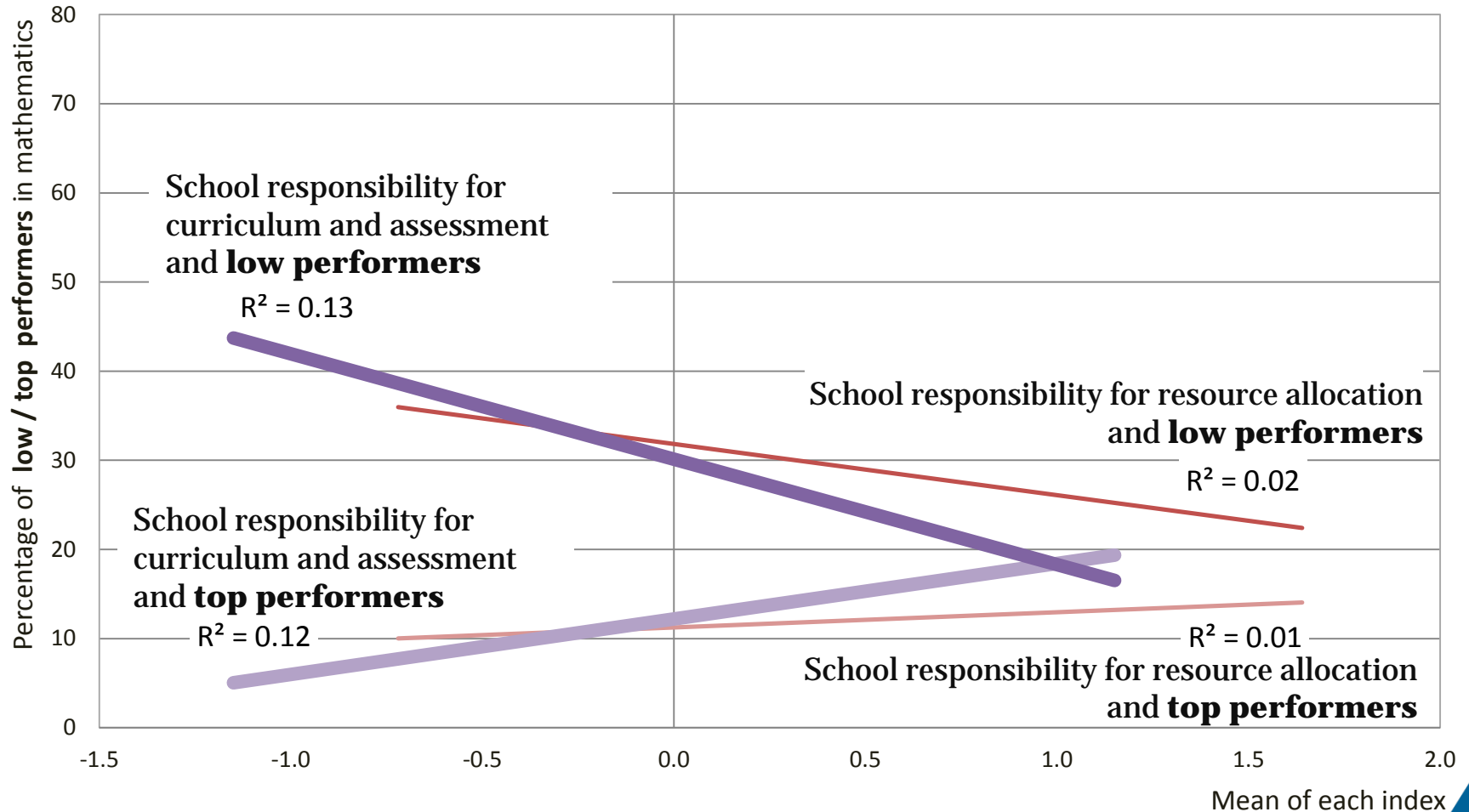
System-level correlation (all countries/economies in PISA 2012)





School autonomy

System-level correlation (all countries/economies in PISA 2012)





For more information:

Thanks!

www.oecd.org/pisa

Daniel.SALINAS@oecd.org

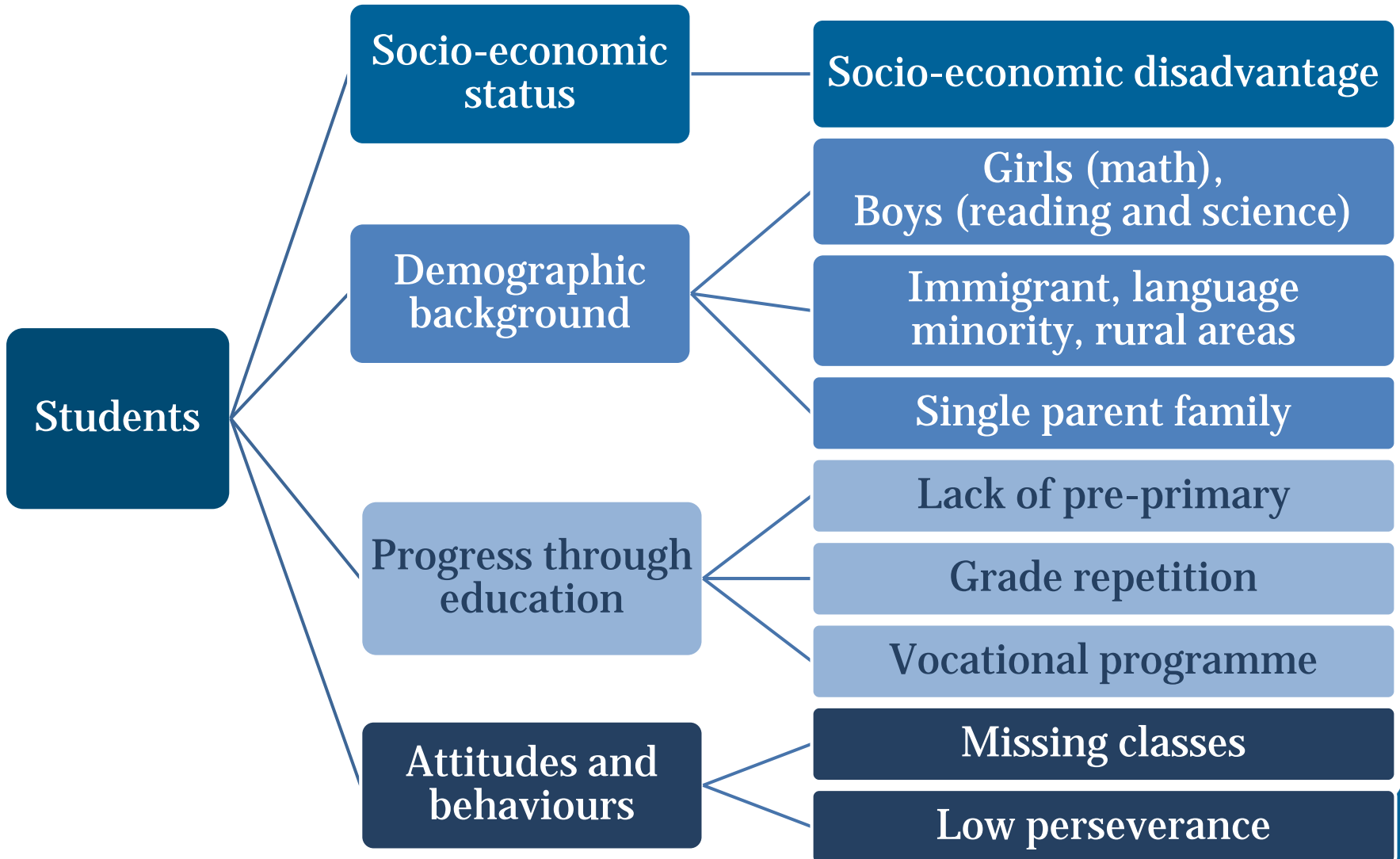
Alfonso.ECHAZARRA@oecd.org



**A POLICY FRAMEWORK
FOR TACKLING STUDENT
LOW PERFORMANCE**

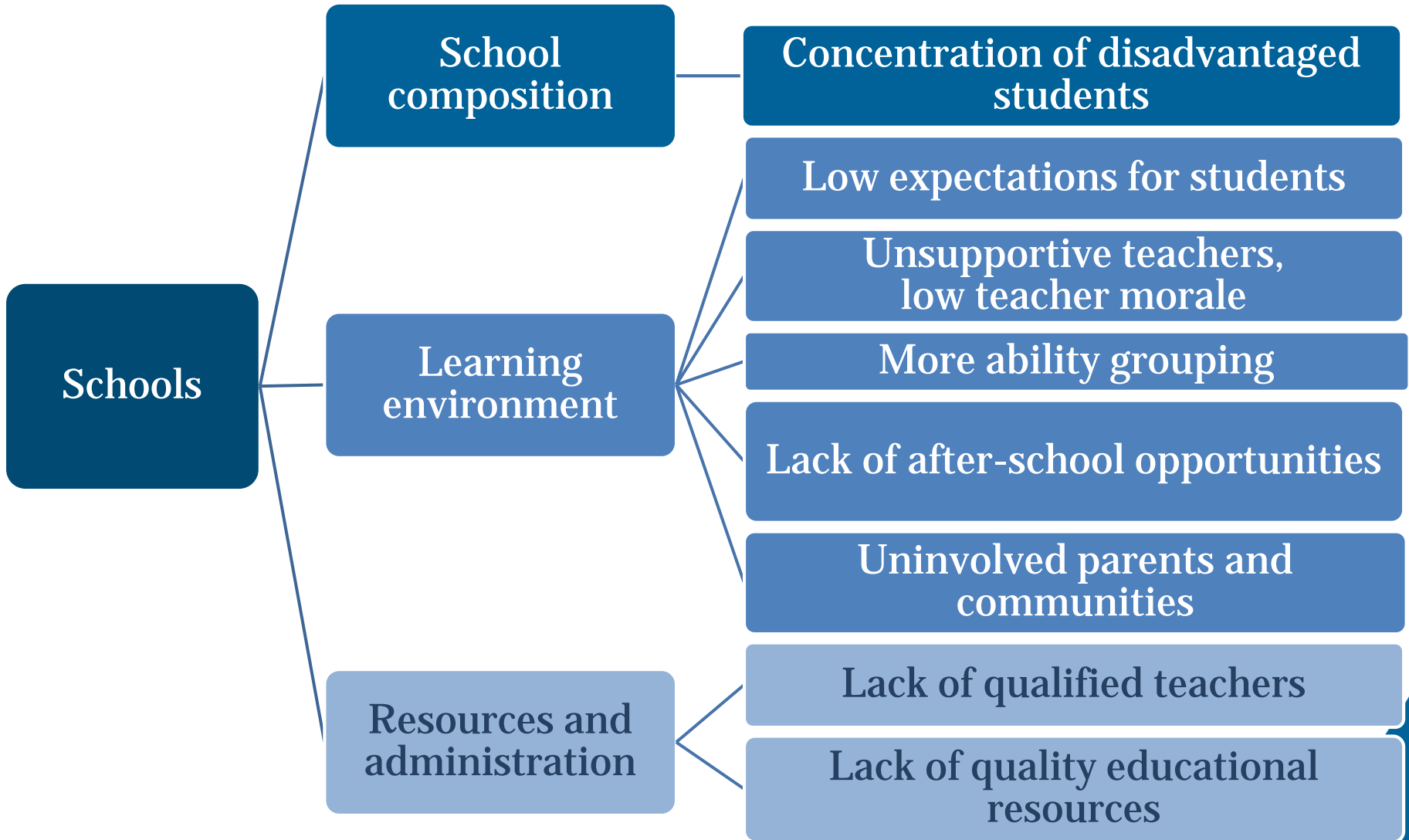


Summary: Risk Factors of Low Performance





Summary: Risk Factors of Low Performance





Policies and practices to tackle low performance

POLICY MAKERS

Make it a priority to reduce low performance

Identify those who are the low performers

Step in as early as possible:

- Early education opportunities (e.g. pre-primary)
- Early diagnosis assessments and remedial support



Policies and practices to tackle low performance **POLICY MAKERS**

Dismantle the multiple barriers to learning

- **Target special resources** for socio-economically disadvantaged and/or minority students
- **Psycho-social support** (e.g. psychologists, mentors, counsellors, assistance for families)
- Provide **extracurricular opportunities** in schools



Policies and practices to tackle low performance SCHOOL LEADERS AND TEACHERS

Create supportive learning environments at school

- Set **high expectations** for all students
- Provide **special help** to students who need it most
- **Take pride in your school** and be **role models**



Policies and practices to tackle low performance PARENTS and LOCAL COMMUNITIES

Encourage your child to make more of an effort in school

Help her/him with homework

Participate in school life



Policies and practices to tackle low performance STUDENTS

Make the most out of available education opportunities:

- Attend school regularly and arrive on time
- Do your homework
- Make your best effort at school
- Participate in extracurricular activities, both school-related and recreational